

## Claims

- [c1] A system which is able to take a list of staff with certain abilities (skills) and assign them to tasks which require such skills. It uses weighted averages to calculate the best staff for the position. The system includes an easy-to-use user interface.
- [c2] A method as recited in claim 1, where the tasks to schedule have constraints placed upon them such as a fixed starting or ending date, and a minimum amount of staff working per day
- [c3] A method as recited in claim 2, where equipment (such as bulldozers) are also required by tasks, which adds additional variables such as availability of equipment, availability of equipment operators, and repair/maintenance as well as criteria for arrangement such as tool cost and preferences
- [c4] A method as recited in claim 3 where each task takes place at several different locations, which adds more restrictions such as site supervisors who must be present during any job performed at the site, and there may be periods where the site is closed
- [c5] A method as recited in claim 4 where overtime hours, weekday hours, rental tools and contractors can be used to provide the user with a more realistic plan that accounts for staff shortages and more
- [c6] A system as recited in claim 5 which goes beyond merely accomplishing each task in the allotted time span and includes:
- Criteria to further customize the assignment of staff, such as taking into account staff cost, equal (or unequal) distribution of labor, rushing or spreading work evenly throughout the time, and user-defined preferences such as experience level
  - A weighing system to allow users to specify how important each criterion will be relative to the other criteria, enabling users not only to specify that criterion A will be more important than criterion B, but exactly how much more important as well
  - A user-interface which allows easy adjustments of aforementioned criteria

and weighing

Utilizing of faster sorting methods to quickly large amounts of data without significant loss to the total computation speed, allowing user to simultaneously see the effects on the total project cost while adjusting the various criteria